

WHAT IS CLAIMED IS:

1. An adhesive composition comprising:
 - a) epoxy capsules comprising an outer shell material and an encapsulated material surrounded by the outer shell material, said encapsulated material comprising an epoxy resin;
 - b) a polymeric amine that is water soluble or water dispersible, said polymeric amine being a binder and an epoxy curative,wherein the adhesive composition is substantially free of an additional organic binder material.
2. The adhesive composition of claim 1, wherein the outer shell material comprises a urea-formaldehyde-melamine material.
3. The adhesive composition of claim 1, wherein the epoxy capsules have a median particle size of about 20 to about 120 micrometers.
4. The adhesive composition of claim 1, wherein the epoxy resin comprises a glycidyl ether of polyhydric phenols, said glycidyl ether having at least two epoxy groups per molecule.
5. The adhesive composition of claim 4, wherein the epoxy resin comprises a diglycidyl ether of Bisphenol A.
6. The adhesive composition of claim 4, wherein the encapsulated material further comprises an epoxy diluent.
7. The adhesive composition of claim 1, wherein the epoxy capsules are present in an amount of about 20 to about 60 weight percent and the polymeric amine is present in an amount of about 10 to about 60 weight percent based on the weight of the adhesive composition.
8. The adhesive composition of claim 1, further comprising an inorganic or polymeric filler material.
9. The adhesive composition of claim 1, wherein the polymeric amine comprises a polyamidoamine, a polyethylenimine, a polyoxyalkyleneamines, or a combination thereof.

10. The adhesive composition of claim 1, wherein the adhesive composition comprises a first part and a second part, wherein the first part comprise the epoxy capsules and the second part comprises the polymeric amine.

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11. An article comprising:

a) a substrate having an outer surface; and

b) a water-based adhesive composition on at least a portion of the outer surface of the substrate, said adhesive composition comprising:

10 i) epoxy capsules comprising an outer shell material and an encapsulated material surrounded by the outer shell material, said encapsulated material comprising an epoxy resin;

ii) a polymeric amine that is water soluble or water dispersible, said polymeric amine being a binder and an epoxy curative,

15 wherein the adhesive composition is substantially free of an additional organic binder resin.

12. The article of claim 11, wherein the substrate is a three-dimensional shape, a film, a foil, a fabric, a tube, a pipe, or a mechanical fastener.

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13. The article of claim 12, wherein the substrate is a mechanical fastener.

14. The article of claim 13, wherein the mechanical fastener comprises a screw, bolt, pipe joint, nut, nail, or a bolt/nut assembly.

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15. The article of claim 13, wherein the mechanical fastener comprises a bolt, and wherein the bolt having the reaction product of the adhesive composition thereof and a subsequently attached nut exhibit a breakaway torque value greater than about 5 N-m following a Humidity Resistance Test.

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16. The article of claim 15, wherein the breakaway torque value is greater than about 10 N-m following a Humidity Resistance Test.

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17. The article of claim 11, wherein the epoxy capsules are present in an amount of about 20 to about 60 weight percent and the polymeric amine is present in an amount of about 10 to about 60 weight percent based on the weight of the adhesive composition.

18. The article of claim 11, wherein the adhesive composition further comprises an inorganic or polymeric filler.

5 19. The article of claim 11, wherein the adhesive composition further comprises a thickener.

20. A method of making an article comprising applying a water-based substrate to at least a portion of an outer surface of a substrate, said adhesive composition comprising:

10 a) epoxy capsules comprising an outer shell material and an encapsulated material within the outer shell material, said encapsulated material comprising an epoxy resin;

b) a polymeric amine that is water soluble or water dispersible, said polymeric amine being a binder and an epoxy curative,

15 wherein the adhesive composition is substantially free of an additional organic binder resin.

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